INSTALLATION INSTRUCTIONS

RF RECEIVERS
4281 Series
5881 Series
5882 Series

UNLESS OTHERWISE NOTED, ALL INFORMATION CONTAINED IN THESE INSTALLATION INSTRUCTIONS APPLIES TO BOTH THE 4281 AND 5881 SERIES OF RF RECEIVERS, AND TO THEIR CANADIAN VERSIONS

For use with QED control panels only!

4281 Series		5881 Series	5882 Series (Canada)
4281L	4281CN-L (Canada)	5881L	5882L
4281M	4281CN-M (Canada)	5881M	5882M
4281H	4281CN-H (Canada)	5881H	5882H
		5881EH*	—

*The 5881EH is an enhanced version of 5881H. See bulleted paragraph in INTRODUCTION section.

INTRODUCTION

The 4281/4281CN and 5881/5882 family of RF receivers are designed for use with QED control panels that support an RF receiver connection *via the remote keypad connection points*. The receiver recognizes alarm, status and keypad control messages from wireless transmitters operating at 345MHz (in Canada, 315MHz for 4281CN series).

For brevity, the various versions of these receivers are referred to herein as "receiver" unless otherwise noted.

One or two individually identified receivers can be employed, depending on the control used. Connection of multiple receivers to a QED control can provide redundant coverage or extend coverage in large areas. *Multiple receivers do not increase the number of transmitters that the system can support.* See the QED control's instructions for specific information regarding the number and type of receivers that can be supported.

These receivers feature a Spatial Diversity System which virtually eliminates the possibility of "Nulls" and "Dead Spots" within the coverage area.

- The 4281/4281CN family of receivers are used in conjunction with 5700 series transmitters.
- The 5881/5882 family of receivers are used in conjunction with QED 5800 series transmitters.
- The 5881EH is an enhanced version of the 5881H using Ademco's new SignalSentry™ technology, and is intended for use in commercial fire installations. To comply with commercial fire applications, the 5881EH can only be used with control panels that are approved for use in commercial fire installations.

Note: You will find identification of the receiver model on the unit's PC board (see Diagram 2 for location).

Each receiver supports the number of zones shown below.

4281L/4281CN-L	Up to 4 zones
4281M/4281CN-M	Up to 8 zones
4281H/4281CN-H	*See below
5881L/5882L	Up to 8 zones
5881M/5882M	Up to 16 zones
5881H/5881EH/5882H	*See below

* The number of zones that the 4281H, 5881H/5881EH or 5882H receiver can support depends on the QED control with which it is used. See the QED control panel's instructions for specific details.

If a receiver is connected to a system in which more than the permitted number of wireless zones have been programmed, a "SET UP ERROR" message (Alpha keypads) or an "E4 or "E8"" message (fixed-word keypads) will be displayed on the system's keypad, and none of the zones will be protected.

The instruction manual that accompanies the QED control includes recommendations regarding receiver and transmitter locations, the types of wireless zones that can be programmed (e.g. ENTRY/EXIT, PERIMETER, INTERIOR, etc.) and the procedure for programming the receivers.

These receivers should not be installed in an area subject to environmental extremes of below freezing (such as an unheated warehouse) or extremely high temperatures (such as an attic).

INSTALLATION

With some QED controls, a receiver may be mounted directly inside the control's cabinet (receiver circuit board only, without its plastic housing) instead of remotely (in its own housing). In both cases, avoid mounting the receiver antennas against a metal surface.

Using The 5881EH In Commercial Fire Applications

The 5881EH must be mounted in a separate cabinet for commercial fire applications. Refer to step 4.

1. **Remove the receiver's cover** by inserting and twisting a screwdriver blade in the slot at the center of the cover's lower edge.
2. **If the receiver is to be mounted within the control's cabinet (refer to Diagram 1):**
   a. Remove the receiver's circuit board from its base by bending back the two flexible plastic tabs that hold the board's lower edge.
   b. In the control's cabinet, unfasten and move the control circuit board downward (if already installed).
   c. Hang two *short* (black) mounting clips (provided with the receiver) on the raised cabinet tabs in the cabinet, as shown in Detail B of Diagram 1.
   d. Insert the top of the receiver board into the supporting slots provided at the top of the cabinet, as shown in Detail A. Swing the bottom of the receiver board into the two short (black) mounting clips installed in step c, and secure it to the cabinet with the accompanying screws. See Detail B.
   e. Insert the top of the control's board into the slot in the black clips holding the lower edge of the receiver board (see Detail B), and position two *long* (red) clips at the lower edge of the board (see Detail C).
   f. Swing the lower edge of the control board into place, and secure with two additional screws.
   g. Insert one of the two grounding lugs (provided with the receiver) through the top of the cabinet and into the *left-hand* terminal of one of the antenna blocks (at the upper edge of the receiver's circuit board). Secure it to the cabinet with one of the two screws provided. See Detail D.

h. Do the same with the other ground lug and antenna block.

i. Insert the receiver's two antennas through the two openings in the top of the cabinet, one into each block's right-hand terminal, and tighten the screws to secure them.

j. Affix the receiver's Summary of Connections label to the inside of the control's cabinet door.

k. Discard the receiver's unused plastic cover and base.

3. **If the receiver is to be located remotely from the control** in its own plastic enclosure (not in a cabinet):

   The circuit board mounting clips, grounding lugs and screws included with the receiver will not be needed.

   a. If concealed wiring is to be used, route it through the rectangular opening at the rear of the base before mounting. For surface wiring entry, a thin breakaway area is provided along the base's right edge.

   b. Mount the receiver in the selected location. For greatest security, use all four mounting holes (two keyslot holes and two round holes) provided in the plastic base.

   c Affix the receiver's Summary of Connections label to the inside of the housing cover.

4. **Mounting the 5881EH in a Separate Cabinet For Commercial Fire Applications.**

   For commercial fire applications, the 5881EH must be *mounted in a separate cabinet,* part # N4868V4–BE, using the Ademco Cam Lock, Part #N6277, and Retainer Clip, Part # N6277–1. Refer to the control's instructions for installing the Cam Lock and Retainer Clip in a cabinet.

   The cabinet containing the receiver must be located no farther than 20 feet from the alarm control cabinet., with no intervening walls or barriers):

   a. Remove the receiver's cover by inserting and twisting a screwdriver blade in the slot at the center of the cover's lower edge.

   b. Remove the receiver's circuit board from its base by bending back the two flexible plastic tabs that hold the board's lower edge.

   c. Mount the receiver board in the cabinet as follows: Insert the top of the receiver board into the supporting slots provided at the top of the cabinet (see Diagram 1 and Detail A which show how the top of the receiver board is secured).

      Secure the bottom of the receiver board with 2 screws (not supplied) using an insulating washer between the head of each mounting screw and the PC board.

   d. Affix the receiver's Summary of Connections label to the inside of the cabinet door.

   e. Discard the receiver's unused plastic cover and base.

5. **Setting The DIP switches (All Receivers):**

   Set the receiver's DIP switch to identify the receiver's address (refer to the DIP switch chart in Diagram 2).

5881EH Only:

DIP switch #5 is used on the 5881EH, as follows:

For commercial fire applications, DIP switch #5 MUST be in the ON position.

Note: All other system components, including the control, must be approved for use in commercial fire applications.

When the 5881EH is not used in a commercial fire application, switch #5 should be placed in the OFF position.

6. **Insert the wiring plug (with 4 flying leads) into the mating socket on the receiver** (see Diagram 2 for socket location). Connect the 4 wires to the control's corresponding remote keypad connection points (see "Interface Wiring" in the *SPECIFICATIONS* section).

7. **Install the antennas** in the *right-hand* terminals of the two terminal blocks at the upper edge of the circuit board, one into each block's right-hand terminal, and tighten the screws to secure them.

   If the receiver is mounted in a cabinet, insert the antennas through the holes in the cabinet's top first, and then into the terminal blocks.

   Important! If the receiver is mounted in a separate cabinet in a commercial fire installation do not use the antenna grounding lugs.

8. **Replace the receiver's cover** if the receiver is not mounted within a cabinet.

9. **Proceed with any programming of the control that may be necessary for RF operation, and the installation of the system's wireless transmitters,** as described in the QED control's installation instructions.

10. **The LED located on the receiver's circuit board** should be used as an indicator of strong local radio frequency interference. If this LED is continuously illuminated, the receiver should be relocated.

SPECIFICATIONS

Dimensions:

7-3/8" W x 4-3/8" (10-7/8" w/antennas) H x 1-7/16" D.
188mm W x 112mm H (277mm w/antennas) x 37mm D.

Input Voltage:

12VDC (from QED control's remote keypad terminals).

Current:

4281/4281CN: 35mA. 5881/5882: 60mA.

Interface Wiring:

RED	12VDC input (+) Aux Power
GREEN:	Data Out to Control
YELLOW:	Data In from Control
BLACK:	Ground (–)

Operating Temperature:

0-50°C

Range:

200ft (60m) nominal indoors from wireless transmitters (the actual range to be determined with the security system in the TEST mode).

TO THE INSTALLER

Regular maintenance and inspection (at least annually) by the installer and frequent testing by the user are vital to continuous satisfactory operation of any alarm system.

The installer should assume the responsibility of developing and offering a regular maintenance program to the user, as well as acquainting the user with the proper operation and limitations of the alarm system and its component parts. Recommendations must be included for a specific program of frequent testing (at least weekly) to insure the system's operation at all times.

FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENT

This equipment has been tested to FCC requirements and has been found acceptable for use. The FCC requires the following statement for your information:

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

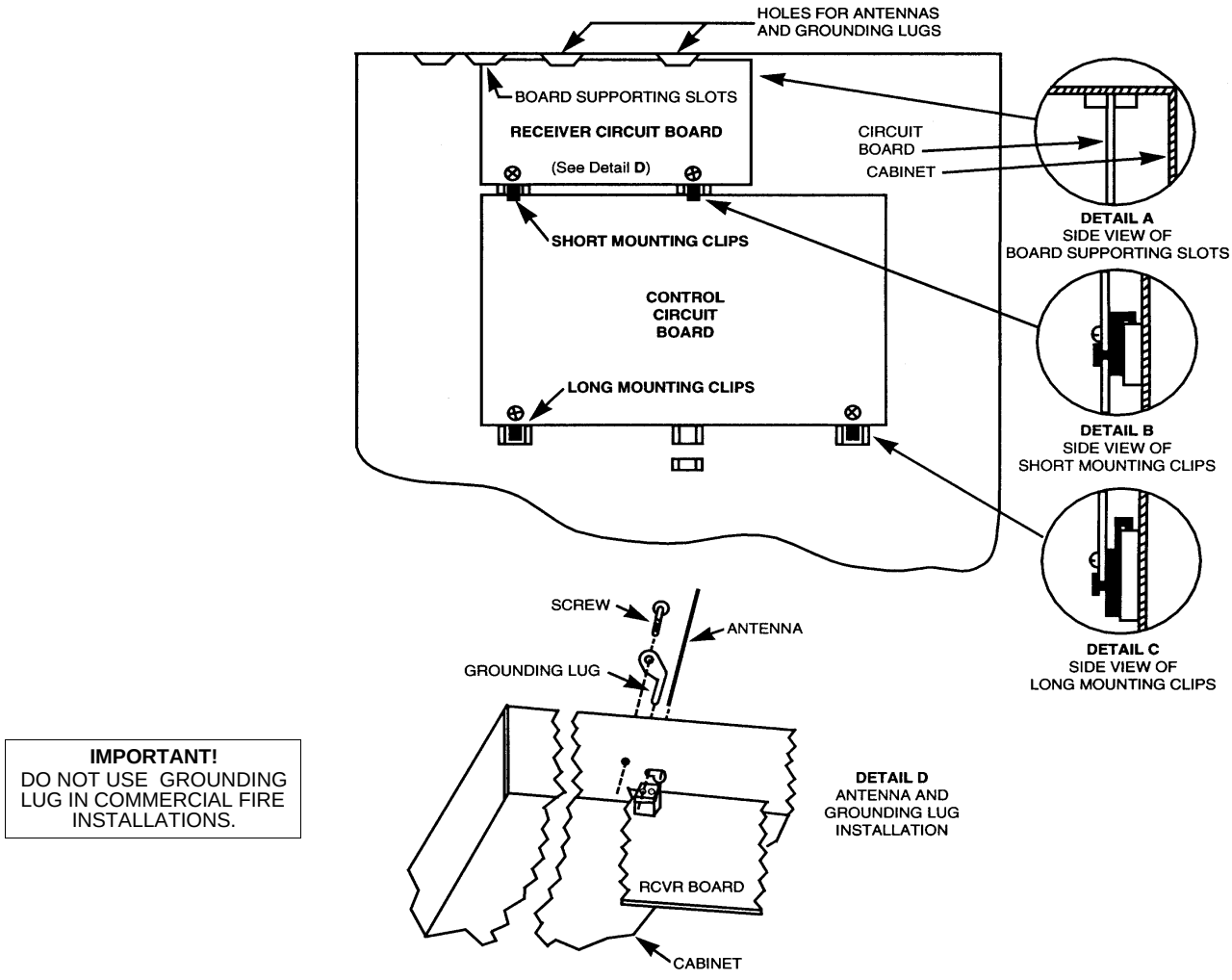
- If using an indoor antenna, have a quality outdoor antenna installed.
- Reorient the receiving antenna until interference is reduced or eliminated.
- Move the radio or television receiver away from the receiver/control.
- Move the antenna leads away from any wire runs to the receiver/control.
- Plug the receiver/control into a different outlet so that it and the radio or television receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user or installer may find the following booklet prepared by the Federal Communications Commission helpful:

"Interference Handbook"

This booklet is available under Stock No. 004-000-00450-7 from the U.S. Government Printing Office, Washington, DC 20402.

The user shall not make any changes or modifications to the equipment unless authorized by the Installation Instructions or User's Manual. Unauthorized changes or modifications could void the user's authority to operate the equipment.



IMPORTANT!
DO NOT USE GROUNDING LUG IN COMMERCIAL FIRE INSTALLATIONS.

Diagram 1: Installing The Receiver Board in the QED Control's Cabinet
(Check QED Control's Installation Instructions for Applicability)

Diagram 2: Summary Of Connections, 4281/5881/5882 Series RF Receivers

WARNING

THE LIMITATIONS OF THIS WIRELESS ALARM SYSTEM

While this System is an advanced wireless security system, it does not offer guaranteed protection against burglary, fire or other emergency. Any alarm system, whether commercial or residential, is subject to compromise or failure to warn for a variety of reasons. For example:

- Intruders may gain access through unprotected openings or have the technical sophistication to bypass an alarm sensor or disconnect an alarm warning device.
- Intrusion detectors (e.g., passive infrared detectors), smoke detectors, and many other sensing devices will not work without power. Battery-operated devices will not work without batteries, with dead batteries, or if the batteries are not put in properly. Devices powered solely by AC will not work if their AC power supply is cut off for any reason, however briefly.
- Signals sent by wireless transmitters may be blocked or reflected by metal before they reach the alarm receiver. Even if the signal path has been recently checked during a weekly test, blockage can occur if a metal object is moved into the path.
- A user may not be able to reach a panic or emergency button quickly enough.
- While smoke detectors have played a key role in reducing residential fire deaths in the United States, they may not activate or provide early warning for a variety of reasons in as many as 35% of all fires, according to data published by the Federal Emergency Management Agency. Some of the reasons smoke detectors used in conjunction with this System may not work are as follows. Smoke detectors may have been improperly installed and positioned. Smoke detectors may not sense fires that start where smoke cannot reach the detectors, such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level of a residence or building. A second floor detector, for example, may not sense a first floor or basement fire. Finally, smoke detectors have sensing limitations. No smoke detector can sense every kind of fire every time. In general, detectors may not always warn about fires caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson. Depending on the nature of the fire and/or location of the smoke detectors, the detector, even if it operates as anticipated, may not provide sufficient warning to allow all occupants to escape in time to prevent injury or death.
- Passive Infrared Motion Detectors can only detect intrusion within the designed ranges as diagrammed in their installation manual. Passive Infrared Detectors do not provide volumetric area protection. They do create multiple beams of protection, and intrusion can only be detected in unobstructed areas covered by those beams. They cannot detect motion or intrusion that takes place behind walls, ceilings, floors, closed doors, glass partitions, glass doors, or windows. Mechanical tampering, masking, painting or spraying of any material on the mirrors, windows or any part of the optical system can reduce their detection ability. Passive Infrared Detectors sense changes in temperature; however, as the ambient temperature of the protected area approaches the temperature range of 90° to 105°F (32° to 40°C), the detection performance can decrease.
- Alarm warning devices such as sirens, bells or horns may not alert people or wake up sleepers if they are located on the other side of closed or partly open doors. If warning devices are located on a different level of the residence from the bedrooms, then they are less likely to waken or alert people inside the bedrooms. Even persons who are awake may not hear the warning if the alarm is muffled by noise from a stereo, radio, air conditioner or other appliance, or by passing traffic. Finally, alarm warning devices, however loud, may not warn hearing-impaired people.
- Telephone lines needed to transmit alarm signals from a premises to a central monitoring station may be out of service or temporarily out of service. Telephone lines are also subject to compromise by sophisticated intruders.
- Even if the system responds to the emergency as intended, however, occupants may have insufficient time to protect themselves from the emergency situation. In the case of a monitored alarm system, authorities may not respond appropriately.
- This equipment, like other electrical devices, is subject to component failure. Even though this equipment is designed to last as long as 20 years, the electronic components could fail at any time.

The most common cause of an alarm system not functioning when an intrusion or fire occurs is inadequate maintenance. This alarm system should be tested weekly to make sure all sensors and transmitters are working properly. The security console (and remote keypad) should be tested as well.

This system's wireless transmitters are designed to provide long battery life under normal operating conditions. Longevity of batteries may be as much as 7 years, depending on the environment, usage, and the specific wireless device being used. External factors such as humidity, high or low temperatures, as well as large swings in temperature, may all reduce the actual battery life in a given installation. This wireless system, however, can identify a true low battery situation, thus allowing time to arrange a change of battery to maintain protection for that given point within the system.

Installing an alarm system may make the owner eligible for a lower insurance rate, but an alarm system is not a substitute for insurance. Homeowners, property owners and renters should continue to act prudently in protecting themselves and continue to insure their lives and property.

We continue to develop new and improved protection devices. Users of alarm systems owe it to themselves and their loved ones to learn about these developments.

ADEMCO LIMITED WARRANTY

Alarm Device Manufacturing Company, a Division of Pittway Corporation, and its divisions, subsidiaries and affiliates ("Seller"), 165 Eileen Way, Syosset, New York 11791, warrants its products to be in conformance with its own plans and specifications and to be free from defects in materials and workmanship under normal use and service for 24 months from the date stamp control on the product or, for products not having an Ademco date stamp, for 12 months from date of original purchase unless the installation instructions or catalog sets forth a shorter period, in which case the shorter period shall apply. Seller's obligation shall be limited to repairing or replacing, at its option, free of charge for materials or labor, any product which is proved not in compliance with Seller's specifications or proves defective in materials or workmanship under normal use and service. Seller shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Ademco factory service. For warranty service, return product transportation prepaid, to Ademco Factory Service, 165 Eileen Way, Syosset, New York 11791.

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Seller does not represent that the products it sells may not be compromised or circumvented; that the products will prevent any personal injury or property loss by burglary, robbery, fire or otherwise; or that the products will in all cases provide adequate warning or protection. Customer understands that a properly installed and maintained alarm may only reduce the risk of a burglary, robbery, fire or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss as a result. CONSEQUENTLY, SELLER SHALL HAVE NO LIABILITY FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR OTHER LOSS BASED ON A CLAIM THE PRODUCT FAILED TO GIVE WARNING. HOWEVER, IF SELLER IS HELD LIABLE, WHETHER DIRECTLY OR INDIRECTLY, FOR ANY LOSS OR DAMAGE ARISING UNDER THIS LIMITED WARRANTY OR OTHERWISE, REGARDLESS OF CAUSE OR ORIGIN, SELLER'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT, WHICH SHALL BE THE COMPLETE AND EXCLUSIVE REMEDY AGAINST SELLER. This warranty replaces any previous warranties and is the only warranty made by Seller on this product. No increase or alteration, written or verbal, of the obligations of this Limited Warranty is authorized.

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